

CLAIMS

1. A display device characterized by comprising:

a light emitting element;

5 an analog switch including a first transistor and a second transistor; and
a biasing transistor,

wherein one of a first electrode and a second electrode of the light emitting
element is electrically connected to a first power supply line, and the other is electrically
connected to a second power supply line;

10 wherein a gate electrode of the first transistor is electrically connected to the
first power supply line, and a gate electrode of the second transistor is electrically
connected to the second power supply line; and

wherein a gate electrode of the biasing transistor is electrically connected to a
third power supply line, one of a source electrode and a drain electrode of the biasing
15 transistor is electrically connected to the first power supply line, and the other is
electrically connected to an output terminal of the analog switch and a scan line.

2. A display device characterized by comprising:

a light emitting element;

20 a clocked inverter including a first transistor and a second transistor; and
a biasing transistor,

wherein one of a first electrode and a second electrode of the light emitting
element is electrically connected to a first power supply line, and the other is electrically
connected to a second power supply line;

25 wherein a gate electrode of the first transistor is electrically connected to the
first power supply line, and a gate electrode of the second transistor is electrically
connected to the second power supply line; and

wherein a gate electrode of the biasing transistor is electrically connected to a
third power supply line, one of a source electrode and a drain electrode of the biasing
30 transistor is electrically connected to the first power supply line, and the other is

electrically connected to an output terminal of the clocked inverter and a scan line.

3. A display device characterized by comprising:

a light emitting element;

5 a clocked inverter including a first transistor and a second transistor;

a biasing transistor; and

a level shifter,

wherein one of a first electrode and a second electrode of the light emitting
element is electrically connected to a first power supply line, and the other is electrically
10 connected to a second power supply line;

wherein a gate electrode of the first transistor is electrically connected to the
first power supply line, and a gate electrode of the second transistor is electrically
connected through the level shifter to the second power supply line; and

wherein a gate electrode of the biasing transistor is electrically connected to a
15 third power supply line, one of a source electrode and a drain electrode of the biasing
transistor is electrically connected to the first power supply line, and the other is
electrically connected to an output terminal of the clocked inverter and a scan line.

4. A display device characterized by comprising:

20 a light emitting element;

a clocked inverter including a first transistor and a second transistor;

a biasing transistor; and

a first level shifter and a second level shifter,

wherein one of a first electrode and a second electrode of the light emitting
25 element is electrically connected to a first power supply line, and the other is electrically
connected to a second power supply line;

wherein a gate electrode of the first transistor is electrically connected
through the first level shifter to the first power supply line, and a gate electrode of the
second transistor is electrically connected through the second level shifter to the second
30 power supply line; and

wherein a gate electrode of the biasing transistor is electrically connected to a third power supply line, one of a source electrode and a drain electrode of the biasing transistor is electrically connected to the first power supply line, and the other is electrically connected to an output terminal of the clocked inverter and a scan line.

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5. A display device characterized by comprising a light emitting element and an analog switch including a first transistor and a second transistor,

wherein one of a first electrode and a second electrode of the light emitting element is electrically connected to a first power supply line, and the other is electrically
10 connected to a second power supply line;

wherein a gate electrode of the first transistor is electrically connected to the first power supply line, and a gate electrode of the second transistor is electrically connected to the second power supply line; and

wherein an output terminal of the analog switch is electrically connected to a
15 signal line.

6. The display device according to any one of claims 1 to 4, characterized by further comprising a plurality of transistors disposed between the first power supply line and the signal line,

20 wherein a gate electrode of a transistor selected from the plurality of transistors is electrically connected to the scan line.

7. A driving method of a display device comprising a light emitting element, an analog switch including a first transistor and a second transistor, and a biasing
25 transistor,

wherein one of a first electrode and a second electrode of the light emitting element is electrically connected to a first power supply line, and the other is electrically connected to a second power supply line;

wherein a gate electrode of the first transistor is electrically connected to the
30 first power supply line, and a gate electrode of the second transistor is electrically

connected to the second power supply line; and

wherein a gate electrode of the biasing transistor is electrically connected to a third power supply line, one of a source electrode and a drain electrode of the biasing transistor is electrically connected to the first power supply line, and the other is electrically connected to an output terminal of the analog switch and a scan line,

characterized by the method comprising the steps of:

inverting a potential of the first power supply line and a potential of the second power supply line;

applying a reverse bias to the light emitting element;

turning off the analog switch and turning on the biasing transistor; and

making the potential of the first power supply line equal to a potential of the scan line.

8. A driving method of a display device comprising a light emitting element, a clocked inverter including a first transistor and a second transistor, and a biasing transistor,

wherein one of a first electrode and a second electrode of the light emitting element is electrically connected to a first power supply line, and the other is electrically connected to a second power supply line;

wherein a gate electrode of the first transistor is electrically connected to the first power supply line, and a gate electrode of the second transistor is electrically connected to the second power supply line; and

wherein a gate electrode of the biasing transistor is electrically connected to a third power supply line, one of a source electrode and a drain electrode of the biasing transistor is electrically connected to the first power supply line, and the other is electrically connected to an output terminal of the clocked inverter and a scan line,

characterized by the method comprising the steps of:

inverting a potential of the first power supply line and a potential of the second power supply line;

applying a reverse bias to the light emitting element;

making the clocked inverter enter a high impedance state and turning on the biasing transistor; and

making the potential of the first power supply line equal to a potential of the scan line.

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9. A driving method of a display device comprising a light emitting element and an analog switch including a first transistor and a second transistor,

wherein one of a first electrode and a second electrode of the light emitting element is electrically connected to a first power supply line, and the other is electrically
10 connected to a second power supply line;

wherein a gate electrode of the first transistor is electrically connected to the first power supply line, and a gate electrode of the second transistor is electrically connected to the second power supply line; and

wherein an output terminal of the analog switch is electrically connected to a
15 signal line,

characterized by the method comprising the steps of:

inverting a potential of the first power supply line and a potential of the second power supply line;

applying a reverse bias to the light emitting element; and

20 turning off the analog switch.

10. The driving method of a display device, according to claim 7 or 8, characterized by further comprising the steps of:

making a potential of the first power supply line equal to a potential of the
25 scan line; and

turning off a transistor selected from a plurality of transistors disposed between the first power supply line and the signal line.